

MIKHAYLOV, K.Ye., inzh.

Introduction of new equipment and new telecommunication devices.
Elek. sta. 32 no.2:69-72 F '61. (MIRA 16:7)
(Telecommunication--Equipment and supplies)
(Electric protection)

AGAFONOV, S.S.; MIRNATLOV, N.Ye., inzh.

Organization of linear operational communications within
electric power plants. Ele'.sta. 3: no.9:73-79 S '61.

(MIRA 14:10)

(Electric power plants--Communication systems)

SECRET

1. The purpose of this document is to provide information on the status of the project and to recommend a course of action.

2. The project is currently in the planning stage and is expected to be completed by the end of the year.

3. The project is being funded by the Department of Defense and is being managed by the Office of the Secretary of Defense.

4. The project is being conducted in accordance with the provisions of the Arms Control and Disarmament Act.

5. The project is being conducted in accordance with the provisions of the Arms Control and Disarmament Act.

6. The project is being conducted in accordance with the provisions of the Arms Control and Disarmament Act.

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8. The project is being conducted in accordance with the provisions of the Arms Control and Disarmament Act.

9. The project is being conducted in accordance with the provisions of the Arms Control and Disarmament Act.

10. The project is being conducted in accordance with the provisions of the Arms Control and Disarmament Act.

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MIKHAYLOV, L.

Stratosphere, earth. Kryn. rod. 16 no. 2, 6 pp. 1955.

(MIRA [P. 18])

MIKHAYLOV, L. (Novgorod)

Over the Novogorod Kremlin. Kryn. red. 15 no. 7.26 J. '64.
(MIRA 18 1)

GUTMAN, M.B.; MIKHAYLOV, L.A.; KAUFMAN, V.G.

Temperature distribution in the working space of deep salt
baths. Metalloved. i term. obr. met. no.9:14-17 S '64.

(MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrotermi-
cheskogo oborudovaniya.

GUTMAN, M.B., inzh.; MIKHAYLOV, L.A., inzh.; ROZHDESTVENSKIY, O.I., inzh.

Heating in a fluidized bed. Vest. elektroprom. 34 no.8:53-57
Ag '63. (MIRA 16:9)
(Furnaces, Heating) (Fluidization)

40871-66 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AR6014925 SOURCE CODE: UR/0124/65/000/011/B0107/B0107

AUTHORS: Gutman, M. B.; Mikhaylov, L. A.; Rozhdestvenskiy, G. I.

TITLE: Investigation of heat exchange in a fluidized bed

SOURCE: Ref. zh. Mekhanika, Abs. 11B725

REF SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 41, 1964, 10-11

TOPIC TAGS: heat transfer fluid, conductive heat transfer, heat transfer coefficient, heat treating furnace

ABSTRACT: The coefficient of heat transfer from a fluidized bed with a fixed temperature to a copper or steel specimen located in the fluidized bed (which consists of sand particles with a fractional composition from 0.6 to 0.85 mm) was investigated. During the experiments the reduced velocity of the liquefying air varied from 0.55 to 1 m/sec. For the copper specimen, values of the heat transfer coefficients were obtained from 160 to 350 kcal/m²-hr-deg (with bed temperatures from 310 to 815C and for the steel specimen from 200 to 400 kcal/m²-hr-deg (with the oven temperature from 835 to 960C). The experimental results are presented graphically in the form of the dependence of the heat transfer coefficient on the fluidized bed temperature and on the reduced velocity of the liquefying air. The temperature fields in the fluidized bed in the temperature interval from 300 to 800C were also investigated.

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ACC NR: AR6014925

It was established that the nonuniformity of the temperature in the core of the operating bed did not exceed $\pm 2^{\circ}\text{C}$. It is assumed that heating of parts in ovens with a fluidized bed can be effectively utilized, if the heating rate is not limited by the technology of the process. Yu. Ye. Pokhvalov [Translation of abstract]

SUB CODE: 20

Card 2/2 11b

MIKHAYLOV, L.

Meat-packing combine provided with modern equipment. Mias.ind.SSSR
25 no.2:39 '54. (MLRA 7:5)

1. Glavnyy inzhener Novochoerkasskogo myasokombinata.
(Meat industry)

MIKHAYLOV, L. G. and CHISTIAKOV, A. A.

Ultrasonic Waves

Velocity of ultrasonic waves in certain binary mixtures of organic liquids;
Dokl. AN SSSR 81 no.5, 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLAS

Rec. 28 June 1951

IKHAYLOV, L. G.

IKHAYLOV, L. G.: "A marginal problem of the Riemann type for systems of first-order differential equations of elliptic type". Rostov na Donu, 1955. Rostov State U imeni V. M. Molotov. (Dissertations for the Degree of Candidate of Physico-mathematical Sciences.)

o: Knishnaya letopis' No. 49, 3 December 1955. Moscow

MIKHAYLOV, L.G.

~~Linear conjunction of solutions for simultaneous elliptic differential equations of the first order with analytic functions. Uch. zap. Tadzh. un. 10:23-31 '57.~~ (MIRA 10:11)
(Differential equations, Partial) (Functions, Analytic)

MIKHAYLOV, L.G.

~~MIKHAYLOV, L.G.~~

A boundary problem of the type of Riemann's problem for simultaneous elliptic differential equations of the first order and some integral equations. Uch. zap. Tadsh. un. 10:32-79 '57. (MIRA 10:11)
(Differential equations, Partial) (Integral equations)

SUBJECT
AUTHOR
TITLE
PERIODICAL

USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 712
MICHAILOV L.G.
On a boundary value problem of Riemannian type for elliptic
systems of differential equations of first order.
Doklady Akad.Nauk 112, 13-15 (1957)
reviewed 4/1957

Joining the investigations of Vekua (Mat.Sbornik,n.Ser. 31, 2, (1952); Doklady Akad.Nauk 89, 5, (1953); ibid. 98, 2, (1954); ibid. 100, 2, (1955)) and Gachov (Izvestija Kas. fiz.-mat. 14, 3, (1949)) the author considers the equation

$$(1) \quad \frac{\partial U}{\partial \bar{z}} = \Lambda(z) \bar{U}, \quad U = u + iv$$

in the whole plane E , where it is assumed that $\Lambda(z)$ is bounded in E , at infinity satisfies the condition $|\Lambda(z)| \leq \frac{M}{|z|^\alpha}$, $\alpha > 1$ and that it is continuous on E (with exception of a finite number of rectifiable Jordan curves). The formula

$$U(z) = \varphi(z) e^{\omega(z)}$$

of Vekua and its reversion gives the biunique relation between regular (in the sense of Vekua) solutions of (1) and the analytic functions. Using this

Doklady Akad.Nauk 112, 13-15 (1957)

CARD 2/2

PG - 712

fact the author investigates the existence of solutions of homogeneous and inhomogeneous Riemannian boundary value problems for (1), formulated with a sense. For the existence of solutions in the non-homogeneous case the author establishes necessary and sufficient conditions. The proofs are sketched.

INSTITUTION: Tadzhiki's Public University.

16(1)

SOV/155-58-3-15/37

AUTHOR: Mikhaylov, L.G.

TITLE: Singular Cases in the Theory of Generalized Analytic Functions
(Osobyie sluchai v teorii obobshchennykh analiticheskikh funktsiy)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki,
1958, Nr 3, pp 79-84 (USSR)

ABSTRACT: The author considers the generalized Cauchy-Riemannian system

$$\begin{cases} \frac{\partial u}{\partial x} - \frac{\partial v}{\partial y} = a(x,y)u + b(x,y)v \\ \frac{\partial u}{\partial y} + \frac{\partial v}{\partial x} = c(x,y)u + d(x,y)v \end{cases}$$

and its complex solutions $U(z) = u(x,y) + iv(x,y)$ under the assumption that the coefficients with a power $p > 2$ are not summable. Especially isolated singularities of first order are admitted and it is shown that then the structure of the zeros and the singularities as well as the theorem of Liouville are changed essentially. The author constructs a generalized

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Singular Cases in the Theory of Generalized Analytic Functions

analytic function $U(z)$ continuous and bounded in the whole plane, $U(0) = U(\infty) = 0$, which nevertheless is not identically equal to zero. Certain changes are found also for boundary value problems. The author mentions I.N.Vekua. There are 7 Soviet references.

ASSOCIATION: Tadzhikskiy gosudarstvennyy universitet imeni V.I.Lenina
(Tadzhik State University imeni V.I.Lenin)

SUBMITTED: March 2, 1958

Card 2/2

MIKHAYLOV, L.G.

Two-dimensional integral equations with a polar singularity of
the form $\frac{1}{\zeta - \frac{1}{\eta}}$. Ush.zap.Tadzh.un. 18:3-26. '58. (MIRA 14:7)
(Integral equations)

20-119-1-6/52

AUTHOR: Mikhaĭlov, L.G.

TITLE: The Investigation of a New Type of Two-Dimensional Integral Equations (Issledovaniye odnogo novogo tipa dvumernykh integral'nykh uravneniy)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol. 119, Nr 1, pp 27-30 (USSR)

ABSTRACT: In the equation

$$(1) \quad f(z) + \lambda \frac{1}{\pi z} \iint_D \frac{K(\zeta)}{\zeta - z} f(\zeta) d\zeta d\eta = g(z)$$

the integral means the $\lim_{\xi \rightarrow 0} \iint_{D_\xi}$ in the sense of Lebesgue, where

$D_\xi = D - \gamma_\xi$, D - a domain bounded by a finite number of rectifiable closed curves, and γ_ξ is the circle $|z| \leq \xi$. Let $L^*(D)$ be the class of functions being integrable in this sense.

Theorem: For the existence of a solution of (1) for $g(z) \equiv 0$ it is necessary and sufficient that there exists a function

$$\phi(z) = a_0 + \frac{a_1}{z} + \frac{a_2}{z^2} + \dots \text{ for which } \lim_{\xi \rightarrow 0} \int_{l_\xi} \phi(t) e^{\lambda \omega(t)} t^k dt = 0,$$

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16(1) 16. 35 10. 10. 10. 66444
 AUTHOR: Mikhaylov, L.G. NOV, PO-129-3-3 70
 TITLE: An Investigation of the Generalized Cauchy-Riemann System
 Where the Coefficients Have First Order Singularities
 PERIODICAL: Doklady Akademii nauk SSSR, 1980, Vol. 224, Nr. 3, pp 507-510 (USSR)
 ABSTRACT: The author considers

$$(1) \quad \frac{\partial w}{\partial \bar{z}} = \frac{a(z)}{|z|} w + \frac{b(z)}{|z|} \bar{w} + \frac{c(z)}{|z|}$$
 and the corresponding integral equation

$$(2) \quad w(z) = f(z) + \frac{1}{\pi} \iint_D \frac{S(z) w(S) + b(S) \bar{w}(S)}{|S| |S-z|} dS,$$
 where $f(z) = \phi(z) + \frac{1}{\pi} \iint_D \frac{S + iS}{|S| |S-z|}$ and $\phi(z)$ is a holomorphic
 function. Let $S(D)$ be the space of bounded measurable functions;
 $S_\alpha(D)$, $\alpha \geq 0$, be the space of the functions $f_0(z)/|z|^\alpha$, where
 $f_0(z) \in S(D)$.
 Theorem 1: If $a(z), b(z) \in S_\alpha(D)$, $c(z) \in S_\alpha(D)$, $0 < \alpha < 1$, and

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An Investigation of the Generalized Carany-Riemann System Where the Coefficients Have First Order Singularities

66444

$$(4) K_{\alpha} = \sup_{z \in D} |z|^{\alpha} \frac{1}{\pi} \iint_D \frac{|a(\zeta)| + |b(\zeta)|}{|\zeta|^{1+\alpha} |\zeta - z|} d\zeta < 1,$$

then (3) has a unique solution of the class $S_{\alpha}(D)$.

Theorem 2: If $a(\zeta), b(\zeta) \in S(\alpha)$, $\zeta \in D_{\alpha}(D)$, $0 < \alpha < 1$, and $K_{\alpha} < 1$, then all solutions of (2) belonging to the class S_{α} are given by the formula

$$(5) w(z) = g(z) + \iint_D [\Gamma_1(z, \zeta, \bar{\zeta}) \phi(\zeta) + \Gamma_2(z, \zeta, \bar{\zeta}) \overline{\phi(\zeta)}] d\zeta,$$

where $\phi(z)$ is arbitrarily analytic in D .

Two further theorems are devoted to the equation (2) in the case $\alpha = 0$. The author mentions I.N. Vekua.

There are 10 references, 7 of which are Soviet, and 2 American.

ASSOCIATION: Tadzhikskiy gosudarstvennyy universitet imeni V.I. Lenina
(Tadzhik State University imeni V.I. Lenin)

PRESENTED: June 21, 1959, by N.I. Vekua, Academician

SUBMITTED: June 24, 1959

Card 2/2

MIKHAYLOV, L.G.

First boundary value problem for an elliptic equation with singular coefficients. Dokl. AN Tadzh.SSR 3 no.5:3-8 '60. (MIPA 16:2)

1. Otdel fiziki i matematiki AN Tadzhikskoy SSR. Predstavleno akademikom AN Tadzhikskoy SSR S.U. Umarovym.
(Boundary value problems) (Differential equations, Partial)

86184

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3/140/60/000/005/011/021
C111/C222

AUTHOR: Mikhaylov, L.G.

TITLE: The General Boundary Value Problem on Infinitely Small Bendings
of Surfaces Sewed Together

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1960,
No. 5, pp. 99 - 109

TEXT: Let L be a closed Lyapunov curve; let $D \equiv D^+$ be the region inside of L ; let D^- be the outer region so that $D + D^- = E$, where E is the full plane. Let the origin lie in D^+ . Let the generalized analytic functions $U_1(z)$, $U_2(z)$ be defined by (cf. Ref. (1))

$$(1) \quad \frac{\partial U}{\partial \bar{z}} = A(z) \bar{U},$$

where $\frac{\partial}{\partial \bar{z}} = \frac{1}{2} \left(\frac{\partial}{\partial x} + i \frac{\partial}{\partial y} \right)$ and

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The General Boundary Value Problem on Infinitely Small Bendings of Surfaces Sewed Together S/140/60/000/005/011/021
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$$A(z) = \begin{cases} A_1(z) & z \in D^+ \\ A_2(z) & z \in D^- \end{cases}, \quad U(z) = \begin{cases} U_1(z) & z \in D^+ \\ U_2(z) & z \in D^- \end{cases}$$

If $U_1(z)$ is continuous in $D + L$ and $U_2(z)$ is continuous in $D^- + L$ then it is called a piecewise regular generalized analytic function.

Problem: Find a piecewise regular generalized analytic function $U(z)$ which vanishes in infinity if the boundary values $U^+(t)$, $U^-(t)$, $\left(\frac{\partial U}{\partial t}\right)^-$ are existing and are continuous with respect to Hölder and connected by the relation

$$(2) \ a(t) U^+(t) + b(t) \overline{U^+(t)} = a_1(t) \left(\frac{\partial U}{\partial t}\right)^- + b_1(t) \overline{\left(\frac{\partial U}{\partial t}\right)^-} + p(t) U^-(t) + q(t) \overline{U^-(t)}$$

if a, b, a_1, b_1, p, q are given functions of the point of L satisfying the Hölder condition, and $\left(\frac{\partial U}{\partial t}\right)^{-1}$ denotes the boundary value of the

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$$\text{derivative } \frac{\partial U}{\partial z} = \frac{1}{2} \left(\frac{\partial U}{\partial x} - i \frac{\partial U}{\partial y} \right).$$

(1) is the equation of the infinitely small bendings of a surface of positive curvature, while the boundary condition (2) can be interpreted as a continuous sewing together of two pieces of the surface to a closed surface. If (1)-(2) has a solution then the surface sewed together admits infinitely small deformations, while otherwise it does not admit these bendings.

Let H denote the Hölder condition.

At first it is stated (theorem 1) that if $A(z) \in H(D + L)$, $A(z) \in H(D^- + L)$ and for $z \rightarrow \infty$ it holds

$$(1.13) \quad |A(z)| \leq \frac{k}{|z|^{1+\varepsilon}}, \quad \varepsilon > 0, k > 0,$$

then every bounded solution of (1) has a derivative $\frac{\partial U}{\partial z}$, where

$$\frac{\partial U}{\partial z} \in H(D^+) \quad , \quad \frac{\partial U}{\partial z} \in H(D^-) \quad . \quad \text{If } L \text{ is a Lyapunov curve then from the}$$

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existence of the boundary values $U^{\pm}(t)$, $\left(\frac{\partial U}{\partial t}\right)^{\pm}$ there follows the existence of the $\phi^{\pm}(t)$, $\left(\frac{d\phi}{dt}\right)^{\pm}$ for the corresponding holomorphic function $\phi(t)$, with the aid of which every piecewise regular solution of (1), according to (Ref. 1) can be represented in the form

$$(1.14) \quad U(z) = \phi(z) + \iint_E \Gamma_1(z, \zeta) \phi(\zeta) d\zeta + \iint_E \Gamma_2(z, \zeta) \overline{\phi(\zeta)} d\zeta$$

Theorem 2 states that every solution of the problem (2) admits the integral representation

$$(1.21) \quad U(z) \begin{cases} \frac{1}{2\pi i} \int_L \frac{\varphi(\tau)}{\tau - z} d\tau + \dots & z \in D^+ \\ -\frac{1}{2\pi i} \int_L \frac{\varphi(\tau)}{\tau} \ln\left(1 - \frac{\tau}{z}\right) d\tau + \dots & z \in D^{-1} \end{cases}$$

where $\varphi(t) \in H$ is the unknown density.

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The values $U^+(t)$, $U^-(t)$, $\left(\frac{\partial U}{\partial t}\right)^-$ are given by

$$(1.22) \quad \begin{aligned} U^+(t) &= \frac{1}{2} \psi(t) + \frac{1}{2} S\psi + \dots \\ U^-(t) &= -\frac{1}{2\pi i} \int_L \frac{\psi(\tau)}{\tau} \ln\left(1 - \frac{\tau}{t}\right) d\tau + \dots \\ \left(\frac{\partial U}{\partial t}\right)^- &= \frac{1}{2t} \psi(t) + \frac{1}{2t} S\psi - \frac{1}{2} \left[\overline{t's}\right]^2 A^+(t) \left(\frac{1}{2}\psi(t) + \frac{1}{2}S\psi\right) + \dots, \end{aligned}$$

where $S\psi = \frac{1}{\pi i} \int_L \frac{\psi(\tau)}{\tau - t} dt$, and all terms which are not written are

regular integral operators over $\psi(t)$ or $\overline{\psi(t)}$.

Then it is shown (theorem 3) that (1)-(2) is equivalent to the system of singular integral equations

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$$\alpha \varphi_1 + B \varphi_2 + \alpha_1 S \varphi_1 - B_1 S \varphi_2 + K_1 \varphi_1 + K_2 \varphi_2 = 0$$

$$(2.6) \quad \bar{B} \varphi_1 + \bar{\alpha} \varphi_2 + \bar{B}_1 S \varphi_1 - \bar{\alpha}_1 S \varphi_2 + L_1 \varphi_1 + L_2 \varphi_2 = 0$$

(if there exist φ_1, φ_2 satisfying (2.6) then the solution of (1)-(2) can be found from (1.21); reversely, if (1)-(2) is solvable then there exist

$$\varphi_1, \varphi_2 \text{ satisfying (2.6)). Here it holds: } \alpha(t) = \frac{1}{2} \left[a(t) + \frac{a_1(t)}{t} + \overline{r(t)} b_1(t) \right], \quad B(t) = \frac{1}{2} \left[b(t) + r(t) a_1(t) + \frac{b_1(t)}{t} \right], \quad \alpha_1(t) = \\ = \frac{1}{2} \left[a(t) - \frac{a_1(t)}{t} + \overline{r(t)} b_1(t) \right], \quad B_1(t) = \frac{1}{2} \left[b(t) + r(t) a_1(t) - \frac{b_1(t)}{t} \right], \\ r(t) = \frac{1}{2} \left[\overline{t'(s)} \right]^2 A^+(t); \quad K_1 \text{ and } K_2 \text{ are regular operators}$$

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Finally it is stated (theorem 4) that if $\overline{a(t)}a_1(t) - b(t)\overline{b_1(t)} \neq 0$ holds everywhere on L then the problem (2) has finitely many linearly independent solutions. If $\text{Ind}_L [\overline{a(t)}a_1(t) - b(t)\overline{b_1(t)}] > 1$ then the problem is solvable and the corresponding surface admits infinitely many deformations. The author mentions I.N. Vekua and B.V. Boyarskiy. There are 12 Soviet references.

[Abstracter's note : The operators L_1 and L_2 are not defined, but they seem to be regular. The author's notations partially are not precise and change without any remark. Some misprints are contained in the paper. (Ref.1) concerns a paper of I.N. Vekua in Matematicheskii sbornik, 1952, Vol. 32, No.2] X
ASSOCIATION: Tadzhikskiy gosudarstvennyy universitet imeni V.I. Lenina
(Tadzhikskaya State University imeni V.I. Lenin)

SUBMITTED: October 31, 1958

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B/044/63/000/002/025/050
A060/A126

AUTHOR: Mikhaylov, L.G.

TITLE: On a new class of singular integral equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, 1963, 53, abstract 2B235
(Izv. AN TadzhSSR. Otd. geol.-khim. i tekhn. n., 1961, no. 1 (3),
3 - 14; summary in Tajik)

TEXT: D is an origin-containing finite domain of an n -dimensional Euclidean space E , $r(x, t)$ is the distance between its points x and t ; $\rho(x) = r(x, 0)$. $S_\beta(D)$, $\beta > 0$, denotes the space of functions of the form $f(x) = \rho^\beta(x) f_0(x)$, where $f_0(x)$ is measurable and bounded with norm $\|f\| = \sup |f_0(x)|$. The notation
 $(\alpha, \beta) = \int_D \rho^{-\alpha-\beta}(y) r^{\alpha-n}(y, I) dy$, $0 < \alpha < n$, $0 < \beta < n - \alpha$,

is introduced, where I is the point with coordinates $(1, 0, \dots, 0)$. It is demonstrated that the operator

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On a new class of singular integral equations

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$$T\varphi = \int_D \rho^{-\alpha}(t) r^{\alpha-n}(x, t) \varphi(t) dt, \quad 0 < \alpha < n,$$

for $0 < \beta < n - \alpha$ maps $S_\beta(D)$ into itself and that $\|T\| = q(\alpha, \beta)$. This holds also for $D = \mathbb{R}^n$. For a more general operator $(K(x, t))$ is a bounded function)

$$K\varphi = \int_D K(x, t) \rho^{-\alpha}(t) r^{\alpha-n}(x, t) \varphi(t) dt, \quad 0 < \alpha < n,$$

the estimate

$$\lim_{x, t \rightarrow 0} |K(x, t)| q(\alpha, \beta) \leq \|K\| \leq \sup_{x, t \in D} |K(x, t)| q(\alpha, \beta)$$

is established. If the function $K(x, t)$ is bounded, continuous for $x \neq t$ and $\lim_{x, t \rightarrow 0} K(x, t) = 0$, then the operator K is completely continuous. Finally,

if the function $K(x, t)$ is bounded and continuous for $x \neq t$ and the function $\alpha(x)$ is continuous in D , then the operator $R\varphi = A K \varphi - K A \varphi$ is completely continuous in $S_\beta(D)$. A number of theorems is proven on equations of

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the form $\varphi = K\varphi + f$; all these theorems follow automatically from the results formulated above and from well-known general theorems on equations in Banach spaces.

S.G. Mikhlin

[Abstracter's note: Complete translation]

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MIKHAYLOV, L.G.

Theory of a general boundary problem of linear conjugation.

Dokl. AN Tadzh. SSR 4 no.4:3-7 '61.

(MIRA 15:1)

1. Otdel fiziki i matematiki AN Tadzhikskoy SSR. Predstavleno akademikom AN Tadzhikskoy SSR S.U. Umarovym.

(Integral equations)

13263-63

ENT(d)/FCC(w)/EDS

AFFTC

IJP(C)

S/044/63.000/003/008/047

AUTHOR:

Mikhaylov, L. G.

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TITLE:

An investigation of a generalized Cauchy-Riemann system in which the coefficients possess first-order singularities 16

PERIODICAL:

Referativnyy zhurnal, Matematika, No. 3, 1963, 35, Abstract 38158 (Tr. AN TadzhSSR, 109, 1961, 57-75, summary in Tadzhikistani).

TEXT:

The author investigates the solution of a system of two elliptic differential equations written in compact form:

$$\partial U / \partial z = A(z)U + B(z)\bar{U}, \quad (1)$$

the case in which the coefficients A, B possess singularities of the following nature:

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$$A(z) = \frac{A_0(z)}{\prod_{k=1}^n (z - z_k)} , \quad B(z) = \frac{B_0(z)}{\prod_{k=1}^n (z - z_k)} \quad (2)$$

st, the author studies the behavior of the integral

$$\omega(z) = - \frac{1}{\pi} \iint_D \frac{f(\xi)}{\xi(\xi - z)} d\xi \quad (3)$$

the following basic theorem is deduced:

orem. If $f(z) \in L_p$, $p > 2$, then $\omega(z)$ permits the following bound everywhere, with the exception of the point $z = 0$, and also near the point:

$$|\omega(z)| \leq \frac{u}{z^{2/p}} \quad (4)$$

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an investigation of a generalized

if, in addition, when $z = 0$, $f(z)$ is bounded, then

$$|\omega(z)| \leq (\mu + \varepsilon) \ln \frac{1}{|z|} + N_\varepsilon \quad (5)$$

where $\varepsilon > 0$ is as small as we please and $\mu = 2 \text{ var} \lim_{z \rightarrow 0} |f(z)|$. When $f(z)$ is continuous if $z = 0$

$$|\omega(z)| < \varepsilon \ln \frac{1}{|z|} + N_\varepsilon \quad (6)$$

if in the vicinity of $z = 0$ $\frac{f(z) - f(0)}{z} \in L_p$, $p > 2$, then $\omega(z)$ is bounded and $f(0) = 0$ it is continuous. The bounds obtained are utilized first for investigating the nature of the solutions of the equation

$$\frac{\partial U}{\partial z} = \frac{K(z)}{z} U \quad (7)$$

for different assumptions in respect to $K(z)$. The investigation was based on the formula for an explicit solution of this equation. It is shown by constructing

and 3/4

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S/044/63/000/003/008/047

investigation of a generalized

example that when these singularities are present the Liouville theorem may be violated, that is, solutions may exist that are bounded in the whole complex plane and which differ by an identical constant. For equation (?) the author studies boundary value problems of the type of the Hilbert and Riemann problems. The concept of the index of a singular point is introduced. For the general case of equation (1) the author gives a schematic study of the behavior of the solutions in the neighborhood of the singular points and the dependence of the number of solutions of the boundary value problems on the indices of the singular points.

Abstracter's note: Complete translation.]

rd 4/4

MIKHAYLOV, L.G.

One boundary value problem of linear conjugation. Dokl. AN SSSR
139 no.2:294-297 J1 '61. (MIRA 14:7)

1. Otdel fiziki i matematiki Akademii nauk Tadzhiksk. predstavleno
akademikom I.N. Vekua.

(Boundary value problems) (Integral equations)
(Functions, Analytic)

25706
S/020/61/139/003/005/025
C111/C222

16,2500

AUTHOR: Mikhaylov, L.G.

TITLE: Elliptic equations with singular coefficients

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 3, 1961, 552-555

TEXT: Let $r(x, t)$ - - distance between $x = (x_1, \dots, x_n)$ and $t = (t_1, \dots, t_n)$;
 $\varphi(x) = r(x, 0)$; $S(D)$ - - class of bounded measurable functions with the
norm $\|f\|_{S(D)} = \sup_{x \in D} |f(x)|$; $S(B, D)$ - - class of functions $f(x) =$
 $= \varphi^{-B}(x) f_0(x)$. where $f_0(x) \in S(D)$, $\|f\|_{S(B, D)} = \|f_0\|_{S(D)}$.

Let $\varphi_1(x) = r(x, c_1)$, where $c_1, c_2, \dots, c_p$ are points of the region D
or of its boundary ; let $\Pi(x) = \min \{ \varphi_1(x), \varphi_2(x), \dots, \varphi_p(x) \}$. Let
 $S(B, \Pi, D)$ be the class of the $f(x) = \Pi^{-B}(x) f_0(x)$, where $f_0(x) \in S(D)$.
 $\|f\|_{S(B, \Pi, D)} = \|f_0\|_{S(D)}$. Let K be a cone infinite with respect to one
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Elliptic equations with

side, with the vertex in O ; $q(K, \alpha, \beta) = \int_K g^{-\beta}(y) r^{n-\alpha}(y, I) dy$, where

$0 < \alpha < n$, $\alpha < \beta < n$, I - point of the unit sphere, $I \in K$. If $K = E$, where E is the n -dimensional Euclidean space then $q(E, \alpha, \beta)$ is denoted with $q(\alpha, \beta)$.

Let D be an arbitrary domain, $O \in D$.

Theorem 1: The formula

$$T\varphi = g^{-\alpha}(x) \int_D r^{\alpha-n}(x, t) \varphi(t) dt \quad (1)$$

defines a linear (not completely continuous) operator in the Banach spaces $S(\beta, D)$, $\alpha < \beta < n$, where $\|T\|_{S(\beta, D)} = q(\alpha, \beta)$.

Theorem 2: If $K(x, t) \in S(D \times D)$, then the formula

$$K\varphi = \Pi^{-\alpha}(x) \int_D r^{\alpha-n}(x, t) K(x, t) \varphi(t) dt$$

defines a linear operator in $S(\beta, \Pi, D)$, $\alpha < \beta < n$, where

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Elliptic equations with ...

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$$\mu_1 q(K_1, \alpha, \beta) \leq \|K\|_{S(\beta, II, D)} \leq Mq(V_1, \alpha, \beta) \quad (2)$$

where $M = \sup_{x, t \in D} |K(x, t)|$, $\mu_i = \lim_{x \rightarrow c_i} \lim_{t \rightarrow c_i} |K(x, t)|$, $i = 1, 2, \dots, p+1$.

Here K_1 is the tangent cone at D from c_1 and V_1 is the cone under which D can be seen from c_1 , c_{p+1} denotes the infinitely far point in the case of an infinite domain D .

Theorem 3 : If $K(x, t)$ is continuous for $x \neq t$ and $\lim_{x \rightarrow t} |K(x, t)| = 0$ in all c_i then the operator K_φ is completely continuous in $S(\beta, \Gamma, D)$, $\alpha < \beta < n$

for every β .

Theorem 4 : Let $K(x, t)$ be continuous for $x \neq t$ and in all c_i . If

$$\sum_{i=1}^{p+1} |K(c_i, c_i)| q(V_1, \alpha, \beta) < 1 \quad (4)$$

then for the equation

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C.11/C222

Elliptic equations with ...

$$\varphi(x) + \int_D \frac{K(x,t)}{\Gamma^\alpha(x) r^{n-\alpha}(x,t)} \varphi(t) dt = f(x) \quad (3)$$

there hold the Fredholm theorems.

In (3) it holds $f(x) \in S(B, \overline{\Gamma}, D)$ and $B < n$.

The author considers the elliptic equation

$$Lu = \Delta u + \sum_{i=1}^n \frac{a_i(x)}{\vartheta(x)} u_{x_i} + \frac{b(x)}{\vartheta^2(x)} u = 0 \quad (5)$$

Theorem 5 : If $\overline{\lim}_{x \rightarrow 0} a_i(x)$, $i = 1, \dots, n$ and $\overline{\lim}_{x \rightarrow 0} b(x)$ are sufficiently

small then there always exist solutions being continuous in the singular point.

Theorem 6 : If one of two regular singular points is a weak singularity and in the other $a_i(x)$ and $b(x)$ are continuous and small then (5) has a

continuum of solutions being continuous in the whole space both singular points included.

Card 4/5

Elliptic equations with ...

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C111/C222

Then the author considers the boundary value problem : From the given values $u(x) = \psi(x)$ on the boundary determine a solution of $\Delta u = \varphi^{-2}(x)g(x)$, $g(x) \in S(D)$, which is regular in D everywhere with the exception of $x = 0$, where it may have a singularity the order of which is limited by the condition $\Delta u \in S(\beta, D)$, $\beta < u$. It is proved that the problem has a unique and in the singular point continuous solution for $b(x) = O(\varphi^\epsilon)$, $\epsilon > 0$, $n \geq 2$ and sufficiently small $a_1(x)$ and $b(x)$ or D .

Under certain conditions it belongs to $S(\beta - 2, D)$. Two further theorems contain conditions that the Fredholm theorems are valid for the first boundary value problem, and further sufficient conditions for the existence of a unique in the singular point bounded solution.

There are 10 Soviet-bloc and 3 non-Soviet-bloc references.

ASSOCIATION: Otdel fiziki i matematiki Akademii nauk Tadzhikskaya SSR (Branch of Physics and Mathematics of the Academy of Sciences Tadzhikskaya SSR)

PRESENTED: March 4, 1961, by I.N. Vekua, Academician

SUBMITTED: February 25, 1961

Card 5/5

16 3300
S/O38/62/026/002/002/002
B112/B108

AUTHOR: Mikhaylov, L. G.

TITLE: Elliptic equations with singular coefficients

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya matematicheskaya,
v. 26, no. 2, 1962, 293-312

TEXT: The author considers elliptic equations of the form

$\Delta u + \sum_{i=1}^n a_i(x) u_{x_i} / \varrho(x) + b(x) u / \varrho^\alpha(x) = f(x) / \varrho^\alpha(x)$, where $\varrho(x)$ is the

distance from a certain given point, $\alpha \leq 2$, $x = (x_1, \dots, x_n)$, and where the functions $a_i(x)$ and $b(x)$ are bounded. The manifold of the solutions and the first boundary value problem are investigated. In addition, equations with more than one singular point are considered. These equations are reduced to integral equations with kernels of the form

$K(x, t) / \varrho^\alpha(x) r^{n-\alpha}(x, t)$ which are non-integrable if t coincide with that of a singular point. The theorems of Fredholm are shown to be valid for these integral equations. There are 24 references: 21 Soviet and 3 non-Soviet.

Card 1/2

Elliptic equations with singular ...

S/038/62/026/002/002/002
B112/B108

The English-language reference is: Bers L., Remarks on an application of
pseudanalytic functions, Amer. J. Math., 78, No. 3 (1956), 486-496.

SUBMITTED: October 6, 1960

18

Card 2/2

MIKHAYLOV, L.G.

Elliptic equations with singular coefficients. Trudy Mat. inst.
AN Gruz. SSR 28:123-142 '62. (MIRA 16:8)

(Integral equations)

PHASE I BOOK EXPLOITATION

SOV/6364

Mikhaylov, L. G.

Novyy klass osobnykh integral'nykh uravneniy i vego primeneniya k differentsial'nym uravneniyam s singulyarnymi koeffitsientami (New Class of Singular Integral Equations and Its Application to Differential Equations With Singular Coefficients) Dushanbe, 1963. 182 p. (Series: Akademiya nauk Tadzhikskoy SSR. Otdel fiziki i matematiki. Trudy, tom 1) Errata slip inserted. 850 copies printed.

Tech. Ed.: S. P. Geller.

PURPOSE: The book is intended for mathematicians; it will be of particular interest to persons investigating complex problems in mathematical physics.

COVERAGE: The monograph deals mainly with a new class of singular integral equations related to partial differential equations with coefficients containing first and second order singularities applicable to many problems in mathematical physics, theory of elasticity,

Card 174

New Class of Singular Integral Equations (Cont.).

SOV/6569

and hydrodynamics. The book summarizes the author's studies in the years 1956-1962. Many results, especially in chapter one, are published for the first time.

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Card 2/9

MIKHAYLOV, L.G.; GELLER, S.P., tekhn.red.

[New class of singular integral equations and its applications
to differential equations with singular coefficients] Novyi klass
osobykh integral'nykh uravnenii s singularnymi koefitsientami.
Dushanbe, 1963. 182 p. (Akademiia nauk Tadzhikskoi SSR. Otdel
fiziki i matematiki. Trudy, vol.1). (MIRA 16:9)
(Integral equations) (Differential equations)

MIKHAYLOV, L.G.

Hilbert's problem in a class of generalized analytic functions.
Dokl. AN Tadzh. SSR 6 no.5:8-11 '63. (MIRA 17:4)

1. Otdel fiziki i matematiki AN Tadzhikskoy SSR. Predstavleno
akademikom AN Tadzhikskoy SSR S.U.Umarovym.

MIKHAYLOV, L.G.

Generalized problem of the conjugation of analytic functions
and its applications. Izv. AN SSSR. Ser. mat. 27 no.5:969-
992 S-O '63. (MIRA 16:11)

1. Otdel fiziki i matematiki AN Tadzhikskoy SSR.

DERKACHEV, Anatoliy Andreyevich; MIKHAYLOV, L.G., otv. red.

[General theory of the method of a majorante elastic system] Obshchaia teoriia metoda mazhorantnoi uprugoi sistemy. Dushanbe, AN Tadzhik SSR, 1963. 75 p.
(MIRA 17:10)

MIKHAYLOV, L.G.; BIL'MAN, B.M.

Conditions for the perfect continuity of operators with a singularity
of the type of a homogeneous function of the power -1 . Dokl. AN
Tadzh.SSR 8 no.9:3-7 '65. (MIRA 18:12)

1. Fiziko-tehnicheskii institut imeni S.U.Umarova AN Tadzhikskoy
SSR. Submitted April 13, 1965.

ALEKSEYEV, Ye.T.; KHOLOSTOV, F.Ya.; MIKHAYLOV, L.I.; AVGUSTAYTIS, L.M.

Practices in mechanization and automatization in the textile industry. Tekst.prom. 21 no.2:17-34 Ja '61. (MIRA 14:3)

1. Predsedatel' Ivanovskogo sovmarkhoza (for Alekseyev). 2. Zam. predsedatelya Mospblsovmarkhoza (for Kholostov). 3. Zam.predsdatelya Leningradskogo sovmarkhoza (for Mikhaylov). 4. Zam.nachal'nika Upravleniya legkoy promyshlennosti sovmarkhoza Latviyskoy SSR (for Avgustaytis).
(Textile industry) (Automatic control)

MIKHAYLOV, L.K.

After changes in the administration. Tekst. prom. 17 no.8:4-6 Ag '57.

- Chief textile Administration* (MLRA 10:9)
1. Nachal'nik tekstil'nogo upravleniya Leningradskogo sovnarkhoza.
(Textile industry) (Industrial management)

MIKFAYLOV, I.K.

From the practices of Leningrad leather factories. 1921.-30.01.1961
3 no.11:7-10 N '61. (MIR, 1:1)

1. Zamestitel' predsedatelya Leningradskogo sovnarktoza.
(Leningrad--Leather industry)

MIKHAYLOV, L.K.

Some problems of the technological development of the textile
industry in the U.S.A. Tekst. prom. 23 no.6:79-84 Je '63.
(MIRA 16:7)

1. Zamestitel' predsedatelya Leningradskogo soveta narodnogo
khozyaystva.

{United States---Textile industry}

976-65 EWT(m)/T/EWP(t)/EWP(h) JD

SION NR: AR5009006

S/0137/65/000/002/I115/I115

E: Ref. zh. Metallurgiya, Abs. 21856

R: Gutman, M. B.; Mikhaylov, L. K.; Kaufman, V. G.

: Research on deep salt vats

SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 38, 1964, 9-11

TAGS: metallurgy, electrolytic heat treatment, 6

ABSTRACT: Research has been done at the All-Union Scientific Research Institute Thermo-Electrical Equipment for designing salt vats with a depth of 1700 mm and face area of 0.25 m² and more. At the Moscow Instrument Plant a salt vat with depth of 1650 mm, a power of 75 kw and a molten salt temperature of 1260° was tested. At the Sverdlovsk Instrument Plant a salt bath with a depth of 1750 mm, power of 100 kw and molten salt temperature of 1250° was tested. The electrical losses for various designs of deep salt vats were simulated on a computer. It was found that a rather uniform temperature (within limits of ± 10°) is provided, in deep salt vats tested, at a depth of 1000-1200 mm (when salt contamination is significant). Uniformity of temperature distribution throughout the working space

1/2

976-65
SSION NR: AR5009006

Deep salt vats is greatly affected by the presence of a layer of sludge formed at the bottom of the salt vat during use (with great sludge contamination, the temperature variation may reach $\pm 30^\circ$). The most even temperature distribution throughout the bath is observed in a design with multistage electrode arrangement. The overall length of the working sections of the electrodes should equal the depth of the vat.

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PHASE I BOOK EXPLOITATION

SOV/1265

Kamyshev, Sevast'yan Filippovich, Galikhin, Viktor Dmitriyevich, Larin
Vasiliy Il'ich, Mikhaylov, Leonid Leonidovich, Filonova, Lidiya Ivanovna,
Yasnits, Mikhail Grigor'yevich, and Kvochkin, Fedor Abramovich

Groznenskaya neftyanaya promyshlennost' (The Grozny Petroleum Industry) Moscow,
Gostoptekhizdat, 1957. 57 p. 1,500 copies printed.

Executive Ed.: Lozbyakova, Ye. S.; Tech. Ed.: Polosina, A.S.

PURPOSE: The book is intended for engineers, technicians and workers in the
petroleum industry.

COVERAGE: The status of the Grozny petroleum industry before the Revolution and
the achievements in the recovery and refining of petroleum during the 40 years
after the Revolution are discussed. New oil fields, petroleum installations
and modern techniques and procedures introduced in the Grozny petroleum indus-
try are described. No facilities are mentioned. No references are given.

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The Groznyy Petroleum Industry

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The Grozny Petroleum Industry

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UMANSKIY, M.M.; MIKHAYLOV, L.L.; UMANSKIY, L.M.; BABUKOV, V.G.; NAZARETOV, M.B.

Developing new forms of industrial and labor organizations for
automatic and remotely controlled oil production processes.

Neft.khoz. 37 no.2:18-22 P '59.

(MIRA 12:4)

(Oil fields--Production methods)

(Automation)

(Remote control)

MIKHAYLOV, L.L.; SHISHKIN, O.P.; OBIDNOV, B.I.

Some problems relative to complete automation. *Left. khoz.*
38 no.9:9-12 S '60. (MIRA 13:9)
(Oil fields--Production methods)
(Automation)

MIKHAYLOV, L.L.; GUSHOV, A.I.; TITOV, V.G.

Combined transportation of oil and gas by pipelines. Neft.
khoz. 39 no.7:43-47 J1 '61. (MIRA 14:6)
(Pipelines)

MIKHAYLOV, L.L.; KUZ'MICHEV, D.N.

Estimation of the factor of porosity based on the productivity
factor. Neft. khoz. 40 no.1:36-39 Ja '62. (MIRA 15:2)
(Chechen-Ingush A.S.S.R.--Oil reservoir engineering)

MIKHAYLOV, L.M.

Establishing the number of sections in heating apparatus used in
single-pipe heating systems. Vod.i san.tekh. no.1:39 Ja '60.
(MIRA 13:4)

(Heating)

MIKHAYLOV, L.M.

Determination of the flow coefficient in calculations for heating
devices. Vod. 1 san. tekhn. no. 11:8-13 N '61. (MIRA 15:6)
(Heating research)

MIKHAYLOV, L.M., inzh.

Calculation of the standardized radiator heating system used in
large-panel buildings. Vod.i san.tekh. no.5:8-13 My '62.

(MIRA 15:7)

(Heating)

SKANAVI, A.N., kand.tekhn.nauk; MIKHAYLOV, L.M., inzh.

The problem of water temperatures in heating systems for multi-story buildings. Vod.i san.tekh. no.11:11-15 N '62.

(MIRA 15:12)

(Hot-water heating)

General radiometric methods (Collection of Radiochemical and Dosimetric Methods) Moscow, Medgiz, 1959. 499 p. Errors ally inserted. 9,000 copies printed.

Eds. (Title page): S.O. Gusev, G.Ya. Margulis, A.M. Muray, B.Yu. Tsvetkov, Yu.M. Shubnikov; Ed. (Inside book): V.I. Labunov; Tech. Ed.: A.I. Koshakov.

PURPOSE: This collection of articles is intended for physicists, sanitation and public health doctors, chemists and other specialists working in radioactive industry.

CONTENTS: This work discusses the following subjects: (1) principles of organizing sanitation and dosimetric control in institutions where work is carried on with radioactive substances; (2) radio-chemical and chemical methods for determining certain radioactive substances in samples of air, water, soil and foodstuffs; (3) physical methods of measuring contamination of the air by radioactive gases and aerosols, and methods for determining the level of contamination of working surfaces, clothes and leather coverings; (4) methods of measuring external sources of α - and gamma-radiation, and methods of internal dosimetric monitoring; (5) Absolute and relative methods of measuring the activity of solid and liquid radioactive sources. There are four appendices dealing with methods of calculating the total dosage from sources of emitting radiation, units of activity, and doses from natural background radiation by means of the addition of secondary regulation of metabolism during transportation, storage and handling of radioactive substances. The editors thank Yu.V. Stivintsev and B.P. Stepanov. References appear at the end of each chapter.

Ch. V. Physical Methods of Determining Contamination of the Ambient Atmosphere Due to Radioactive Aerosols and Gases

1. Determination of the active concentration of naturally active aerosols (G.Y. Gusev, V.I. Labunov, V.I. Katsapov and V.M. Shubnikov) 159
2. Determination of the radioactive dust content of air with the aid of membrane filters (V.I. Levechkin) 168
3. Determination of the concentration of active aerosols with the aid of the electric precipitator type EP-2 (Yu.M. Shubnikov and G.Y. Gusev) 169
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5. Radiation metering of radioactive gases by means of a end-window counter (A.M. Muray and A.M. Turkin) 195
6. Determination of effluent air contamination due to radioactive gases and aerosols (S. Pyryov, B.M. Muray and Yu. Shubnikov) 198
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Ch. VI. Methods of Measuring the Level of Contamination of Surfaces

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2. Calibration of instruments for measuring the contamination of surfaces by active substances (Yu.M. Shubnikov) 245
3. Measuring the contamination of fixed surfaces (furniture, equipment and installations) (Yu.M. Shubnikov) 252
4. Checking special clothing for radioactive contamination (B.P. Stepanov and M. Samokritskiy) 256
5. Measuring the radioactive contamination of the hands and body (Yu.M. Shubnikov) 271
6. Measuring the radioactive contamination of surfaces by the counter method (A.M. Muray, Yu. Shubnikov and E. Orlov) 275

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1. Organization of dosimetric monitoring 279
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AREF'YEV, Z.S.; BOCHKAREV, V.V.; MIKHAYLOV, L.M.; TIMOREYEV, L.V.

Utilization of supplementary external packaging for the transportation of radioactive preparations. Med.rad. 6 no.3:68-71
'61. (MIRA 14:5)

(RADIOISOTOPES)

AREF'YEVA, Z.S.; BOCHKAREV, V.V.; MIKHAYLOV, L.M.; TIMOFEYEV, L.V.

Protection from inhibitory radiations of radioactive isotopes.

Med.rad. no.7:77-82 '61.

(MIRA 15:1)

(RADIATION PROTECTION) (RADIOISOTOPES---SAFETY MEASURES)

26376
S/089/61/011/002/013/015
B1C2/B2C1

26.2246

AUTHORS: Mikhaylov, L. M., Aref'yeva, Z. S.

TITLE: Universal tables for calculating gamma-radiation shields of tungsten and uranium

PERIODICAL: Atomnaya energiya, vol. 11, no. 2, 1961, 187-189

TEXT: Tungsten ($Z = 74$, $\rho = 19.3 \text{ g/cm}^3$) and uranium ($Z = 92$, $\rho = 18.7 \text{ g/cm}^3$) are frequently used materials for gamma shielding. Their high Z and their high specific gravity make them the ideal materials for producing small-size shields. The tables offered here have a universal character and were calculated for infinitely large shields on the basis of the rational use of accumulation factors. These tables enable to solve a number of practical problems in connection with the designing of devices making use of different gamma sources. The tables were based on gamma-radiation energies of 0.1 to 10 Mev, and attenuation factors of 1.5 to 100. The results obtained from the tabulated values are a little too high for cases occurring in practice (barrier geometry), considering that infinite geometry has been presupposed when setting up the tables. The dose rates obtained must be reduced by a factor of 1.5.

26376
S/089/61/011/002/013/015
B102/B201

X

Universal tables for calculating

5-10% behind the shield. There are 2 tables and 2 references. 1 Soviet, 1 non Soviet-bloc. The reference to the English-language publication reads as follows: H. Goldstein, J. Wilkins, Report NYC-3015 (1954).

SUBMITTED: March 1, 1961

Table 1. Tungsten shield thickness (in cm) for various attenuation factors of extensive γ radiation.

Legend: (1) attenuation factor K ; (2) gamma-radiation energy, Mev.

Card 2/5

3/089/62/012/001/014 012
B102/B138

212400

AUTHORS: Mikhaylov, L. M., Aref'yeva, Z. S.

TITLE: Tables for calculating the thickness of lead glass for
broad-beam gamma shielding

PERIODICAL: Atomnaya energiya, v. 12, no. 1, 1962, 58-62

TEXT: The gamma-shielding properties of three types of lead glass were investigated: TF-1 ($\rho = 3.86 \text{ g/cm}^3$), TF-5 ($\rho = 4.77 \text{ g/cm}^3$) and STF ($\rho = 6.73 \text{ g/cm}^3$). The results are tabulated for γ -radiation energies between 0.1 and 10.0 Mev and multiplicity factors of attenuation ranging from 1.5 to 10^7 . The dose build-up factors $B(E, Z, \mu x)$ were known with an accuracy of 5-6 % for 3-Mev γ -quanta and shield thicknesses of $\mu x \leq 15$. For 10-Mev quanta it was not less than 6 % at $\mu x = 7$ and 20 % at $\mu x = 15$. The calculations were carried out for infinite geometry. The tables can also be used for other types of lead glass with correction for density. There are 3 tables and 1 Soviet reference. ✓B

SUBMITTED: August 16, 1961

Card 1/1

MIKHAYLOVA, A.A., MIKHAYLOV, L.M., POPOV, A.E., PERAMOVA, Ye.N.

Irradiation of cell cultures in vitro. Radiobiologia 5 no.4:627-628 '66. (MIRA P.R.)

MIKHAYLOV, Lev Mikhaylovich; AREF'YEVA, Zinaida Semenovna; OSANOV,
D.P., red.

[Tables and nomograms to calculate shielding from gamma
rays; point sources] Tablitsy i nomogrammy dlia rascheta
zashchity ot gamma-luchei; tochechnye istochniki. Moskva,
Meditsina, 1966. 132 p. (MIRA 18:9)

TASK 1 BOOK EXPLOITATION

SOW/5134

Moscow. Inzhenerno-fizicheskiy institut

Gakhoritelli; sbornik statey (Accelerators: Collection of Articles)
Moscow, Atomizdat, 1960. 163 p. Errata slip inserted. 3,600
copies printed.Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo
obrazovaniya MVSSE.Ed. (title page): G. A. Tyagunov, Doctor of Technical Science,
Professor; Tech. Ed.: S. N. Repova.

CONTENTS: The book contains articles by staff members of the Department of Electrophysical Installations of the VNIIE (the USSR Engineering Physics Institute) reflecting theoretical and experimental investigations of linear electron accelerators, betatrons and synchrotrons; one article deals with ion sources for cyclotrons. The theoretical papers on linear electron accelerators are a continuation of a similar research paper published in the collection of articles "Inzhenernyy sbornik" (NPI edition, 1959) on the dynamics of particles in these machines. The theoretical papers on particle trapping for acceleration conditions in betatrons and synchrotrons contain a mathematical solution of this problem which takes into account the collective interaction of particles in the beam and the inductive properties of that beam at the moments of onset and break. A number of experimental investigations deals with measurements at xrf and with electron accelerator and betatron components, while a special study is concerned with the linear cyclic accelerator ("electron") proposed a few years ago by one of the coauthors of the article in question. No personalities are mentioned. References accompany most of the articles.

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Card 5/5

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AUTHORS: N. A. Zakharenko, I. I. Kovalenko, I. I. Mikhlin, L. A. H. ...

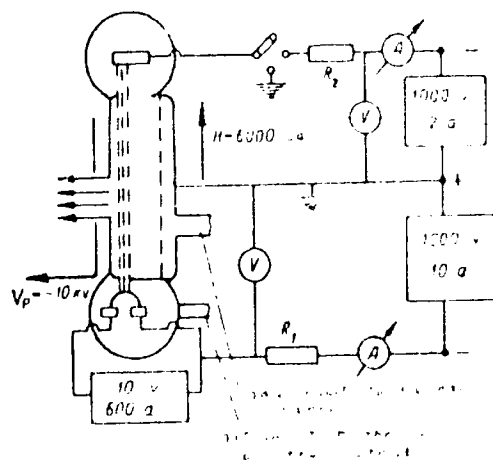
TITLE: Mass-Spectrometric Study of the Ionization of the Ionosphere in the USSR, the ...

PERIODICAL: Atomnaya Energiya, No. 1, 1968 (USSR)

ABSTRACT: During preliminary ... of the ... SSSR, the ... yields ... of ... problems ... paper ... H^+ ... triple ...

Card 1/5

Mass-Spectrometric and Other
Studies of an Ionospheric
Discharge. Letter to the Editor



Card 2/5

Fig. 1. Diagram of the mass spectrometer.

Mass-Spectrometric and Spectroscopic
Studies of an Ion Source Hydrogen
Discharge. Letter to the Editor

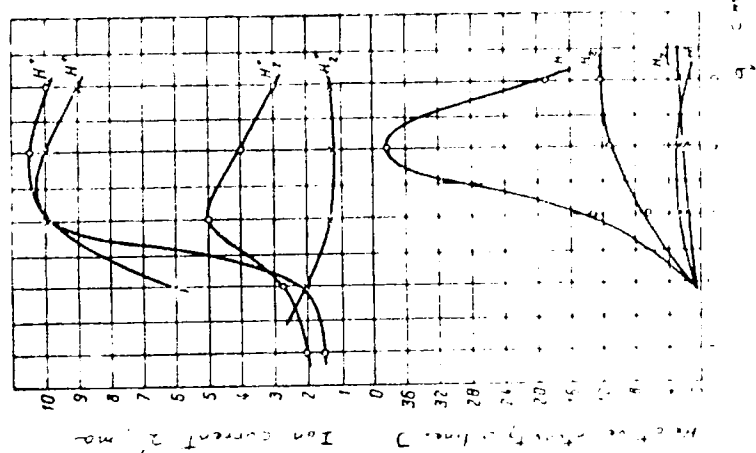


Fig. 1. Variation of
ion current and
neutral atom ion-
ization cross-sections
as a function of
ionization energy.

Card 1

Mass-Spectrometric and Spectroscopic
Studies of an Ion Source Hydrogen
Discharge. Letter to the Editor

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and Ornstein, due to interaction with faster electrons.
There are 5 figures; and 5 references, 2 Soviet, 1
German, 1 Dutch, 1 U.S. The U.S. reference is: R.
Livingston, R. Jones, Rev. Scient. Instrum., 25, 552
(1954).

SUBMITTED: February 27, 1959

Card 1

MIKHAYLOV, L. N. (Leningrad)

Problem concerning the reliability of continuously serviced
multichannel systems. Avtom. i telem. 23 no.11:1527-1535
N '62. (MIRA 15:10)

(Remote control) (Automatic control)
(Electronic apparatus and appliances—Quality control)

MIKHAYLOV, L.N.

λ -~~no~~rogram or component failure intensity diagram. Elektrosviaz' 17
no.11:68-70 N '63. (MIRA 17:1)

KRIVSEIN, Aleksandr Pavlovich; FECHENIN, Nikolay Fedorovich,
KARNAUKH, V.M., reizenant; MIKHAYLOV, L.N., red.

[Repairing bulldozers by the unit method] Remont bul'-
dozerov agregatnym metodom. Moskva, Transport, 1964.
168 p. (MIRA 18:3)

SAENS, Visente [Saenz, Vicente]; MIKHAYLOV, L.R. [translator]; GONIOMSKIY, S.A., kand.istor.nauk, red.; VASILYVSKAYA, E.G., red.; BELEVA, M.A., tekhn.red.

[Problems of interoceanic canals of the American continent] Problemy mezhokeanskikh putei Amerikanskogo kontinenta. Moskva, Izd-vo inostr.lit-ry, 1959. 203 p. Translated from the Spanish. (MIRA 13:1)
(Canals, Interoceanic)

MIKHAYLOV, L.V.

Torsion of a semicircular rod weakened by a round cylindrical cavity.
Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 15 no.6:11-22 '62.

(MIRA 16:6)

1. Yerevanskiy politekhnicheskii institut imeni K.Marksa kafedra
soprotivleniya materialov.

(Elastic rods and wires) (Torsion)

MIKHAYLOV, L.V.

Torsion of a round shaft provided with a longitudinal semicircular groove and weakened by a longitudinal circular cavity. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 16 no.1:33-43 '63. (MIRA 16:3)

1. Yerevanskiy politekhnicheskiy institut imeni Karla Marksa.
(Torsion) (Elasticity)

MIKHAYLOV, L.V.

Torsion of a shaft of rectangular cross section weakened by two like longitudinal circular cavities. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 16 no.1:45-53 '63. (MIRA 16:3)

1. Yerevanskiy politekhnicheskii institut imeni Karla Marksa, kafedra soprotivleniya materialov.
(Torsion) (Elasticity)

41074-65 EPA(s)-2/ENT(m)/EPF(c)/EPF(n)-2/ENG(m)/EPR/EMP(j) PC-4/PT-4/PS-4/Pu-4
 CESSION NR: AT5007904 S/0000/64/000/000/0125/0129 RM/GS 42
 BT1

THOR: Mikhaylov, L. Ye.; Naboychenko, K. V.

TITLE: Investigation of critical heat loads during surface boiling of monoiso-
propylbiphenyl in an annular gap

SOURCE: Moscow, Institut atomovoy energii. Issledovaniya po primeneniyu organi-
eskikh teplonositalay-zamedlitateley v energeticheskikh reaktorakh (Research on
 the use of organic heat-transfer agents and moderators in power reactors). Moscow,
 izdat, 1964. 125-129 19

FIG TAGS: organic cooled reactor, thermal reactor, power reactor, thermodynamic
 analysis, critical heat load, coolant surface boiling, heat transfer agent,
 propylbiphenyl

ABSTRACT: The boiling crisis of the organic transfer agent monoisopropylbiphenyl
 during forced flow in an annular channel was investigated experimentally. All the
 elements of the closed-circulation loop were made of 1Kh18N9T stainless steel. The
 tests were carried out at pressures of 2, 5, and 9 atm, liquid velocities of 2, 4,
 and 8 m/sec, and a liquid temperature of 100 - 300C. In addition to the flow of
 liquid, the authors measured its temperature and the consumption of electric current
 for heating. The results of these investigations were compared graphically with
 data for water at 1/2

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se obtained previously during forced motion of a liquid in a tube, and were found to be comparable. The experimental points approximated curves drawn on the basis of the empirical formula

$$\frac{q_{cr}}{W_s P_c} = 3 \cdot 10^{-4} \left(1 - \frac{P}{P_c} \right) \left(1 + 6.7 \frac{M}{r} \right) \left[1 + 0.8 \left(10^3 \frac{W}{W_s} \right)^{0.5} \right]$$

where q_{cr} is the critical heat load, P & P_c are the pressure and critical pressure, W_s are the velocity of the liquid and the speed of sound in the liquid, r is the latent heat of evaporation, and Δ_i is the underheating to saturation.

ASSOCIATION: None

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ENCL: 00

END CODE: TD, NP

KEY SOV: 002

OTHER: 000

MIKHAYLOV, L.Ye.

Importance of underground waters of southwestern Uzbekistan for
petroleum prospecting. Trudy VSEGEI 42:270-277 '60. (MIRA 14:9)
(Uzbekistan--Water, Underground)

MIKHAYLOV, L. / E.

"Investigation of Heat Removal Crisis at Forced Motion of
Ethyl Alcohol in a Circular Tube."

Report submitted for the Conference on Heat and Mass Transfer,
Minsk, BSSR, June 1961.

MIKHAYLOV, L.Ye.; DUTOVA, Ye.N.

Regularities in the distribution of microflora in underground waters
of the central parts of the Bukhara-khiva petroleum and gas province.
Trudy VSEGEI 46:446-452 '61. (MIRA 14:11)
(Uzbekistan--Water, Underground)
(Uzbekistan--Micropaleontology)

S/862/62/002/000/024/029
A059/A126

AUTHOR: Mikhailov, L.Ye.

TITLE: Investigation of critical heat transfer in the forced motion of ethyl alcohol in a ring-section channel

SOURCE: Teplo- i massopereenos. t. 2: Teplo- i massopereenos pri fazovykh i khimicheskikh prevrashcheniyakh. Ed. by A.V. Lykov and B.M. Smol'skiy. Minsk, Izd-vo AN BSSR, 1962. 222 - 227

TEXT: With respect to the study of the topics mentioned in the title a setup was developed which is shown in Figure 1. The working part of the device shown in Figure 2 permits to study the critical heat transfer of a liquid flowing in an annular channel. Critical heat transfer was automatically located with an electronic device responding to a change of the electric resistance of the fuel element at the moment of onset of the critical heat transfer. Experiments performed to study the influence of pressure, underheating below the boiling point, velocity of the liquid, width of the slit, and length of the fuel element on q_{cr} were evaluated and compared with those obtained for ethyl alcohol

Card 1/5

Investigation of critical heat transfer in

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A059/A126

at the ENIN (Power Engineering Institute imeni G.M. Krzhizhanovskiy), and a satisfactory agreement was found. In these experiments, velocities of 2, 4, 6, and 8 m/sec, pressures of 5, 10, 15, and 20 at, an underheating of 15 - 100 C at 4 - 6 points, widths of the annular slit $\delta = 1.8, 2.45, 2.8, \text{ and } 3.45 \text{ mm}$, and lengths of the fuel element of 80 and 40 mm were used. No influence of the width of the annular slit or the length of the fuel element on q_{cr} was observed. The deviation of the experimental points from linearity was up to 15% for different fuel elements, while for one fuel element these points lie on a smooth curve. The results obtained by the author for q_{cr} in ethyl alcohol were compared in the dimensional coordinates: $q_{cr} = f(p, \Delta t_{und}, w)$, where q_{cr} is the critical thermal stress, $\Delta t_{und} = t - t_{sat}$ (t being the mean temperature of the liquid, and t_{sat} the saturation temperature), and w the mean velocity of the liquid, with the results calculated from the formulas developed by S.S. Kutateladze [Gidravlika gazo-zhidkostnykh sistem (Hydraulics of gas-liquid systems). Gosenergizdat, 1958]:

Card 2/5